CLAIMS

1. A machine for opening cigarette packs and inspecting cigarettes (1), used to recover cigarettes contained in soft cup type packs (72), **characterized by** comprising:

a cigarette pack accumulator (2), which comprises a plurality of pack storage channels (23) that are displaced by means of two link-block belts (24) moving in opposite directions, driven by one or more driving means, each channel (23) being capable of being transferred from one belt to another by means of two pneumatically actuated pistons (25, 26);

a transfer channel (3) in the shape of a half-tube with rectangular cross section, comprising guide means;

a first drum (4), comprised of a fixed inner cylinder (33), secured to the frame of the machine (71), and a movable outer cylinder (32) driven by a driving device (67), by means of cogged belts and pulleys (69, 35), providing an intermittent motion thereto, wherein the inner cylinder is provided along the surface thereof with a plurality of orifices (20), and which internal space is under vacuum, and wherein along the periphery of the outer cylinder there are provided a plurality of orifices (31), the first drum (4) further comprising a compressed air pipe line (34) which crosses both cylinders and reaches the surface of the outer cylinder;

cigarette pack holding pouches (27) attached to the surface of the outer cylinder (32), containing a plurality of orifices (37), internally coated with an adhesive material, wherein the base (36) of each pouch is movable and at one of the ends thereof there being provided a roller (38) that rolls along a cam path (79);

A device for opening the flaps of the aluminum foil lining (28) comprised by a pneumatically actuated piston (39), a claw (41), and a spring (40);

a guide means (42), attached to the flap pressing and label housing displacing device (29) that maintains the full opening of both flaps of the aluminum foil lining;

a flap pressing and label housing displacing device (29) comprised by two pneumatically actuated pistons (45) that drive the flap presses, and a pneumatically actuated piston (43) that drives the pushrods (44) and a device (30) for applying suction to and discarding the label housing;

an unopened packs rejection device (52) that comprises a pneumatically actuated piston (65) and pushrods (66);

a second drum (5), comprised of a fixed inner cylinder (49), secured to the machine frame (71), by a movable outer cylinder (48) driven by a driving device (67), by means of cogged belts and pulleys (69, 50), providing an intermittent motion thereto, wherein the inner cylinder is provided along its surface with a plurality of orifices (64), and where its internal space is under vacuum, wherein along the periphery of the outer cylinder there is provided a plurality of orifices (46);

guide means for opening the top and bottom folds of the aluminum foil lining (51);

a cigarette storage bin (6);

a counter-rotating roll (54);

an inspection drum (9) comprised by a fixed inner cylinder (61), secured to the machine frame (71), and by a movable outer cylinder (60) driven by a driving device (68), by means of cogged belts and pulleys (70, 59, 58),

providing a continuous motion thereto, wherein the inner cylinder is provided along the surface thereof with a plurality of orifices (62), and which internal space is under vacuum, wherein along the surface of the outer cylinder there are provided channels (55) and a plurality of orifices (56) to allow the action of the vacuum, and also openings located centrally in the channels in communication with a compressed air pipe line (63) in the cigarette rejection region;

a cigarette inspection device (57) comprised of an optical sensor that checks the presence of the filter tip and an infrared sensor that checks the condition of the end of the cigarette tobacco tube;

a cigarette rejection device that receives a signal from the inspection device and performs the rejection of a cigarette that fails to meet the quality standard by means of a jet of air blown from the compressed air pipe line (63) provided from an opening (56) located centrally in the channel;

storage bins for label housings (12), aluminum foil linings (13), and cigarettes (11) wherein are stored the objects discarded by the machine, each bin comprising a fan (15, 16, 14) and conveying pipes (18, 19, 17);

rejected cigarette packs storage bin (22), comprised of a bin located at the lower part of the machine and a conveying duct (53);

selected cigarettes collector belt (10), driven by the driving means (68) of the inspection drum; and

a frame (71), whereto are attached all the fixed components of the machine, and also the protection casing elements (7, 8), and the electrical and electronic part of the machine, a control panel (21) being located next to the frame (71).

2. A machine, according to claim 1, **characterized by** further comprising an auxiliary vacuum pump.

3. A machine, according to any one of claims 1 or 2, **characterized in that** each channel (55) stores one single cigarette.

4. A machine, according to any one of claims 1 to 3, **characterized in that** the cigarette storage bin (6) contains a mesh screen.

5. A machine, according to any one of claims 1 to 4, **characterized in that** the cigarette storage bin (6) is transparent.

6. A machine, according to any one of claims 1 to 5, **characterized in that** the cigarette storage bin (6) is made of polycarbonate.

7. A machine, according to any one of claims 1 to 6, **characterized in that** the adhesive material of the internal coating of the holding pouch is polyurethane.